According to my conclusion, without having seen the type, the name *borealis* falls as a synonym.[4]

EXPLANATION OF PLATE XX.

Fig. 1. *Cavotettix nullisinus* sp. nov. ♀. Profile view; drawn from type in the author's collection.
Fig. 1*a*. Same, dorsal aspect, head and fore part of pronotum.
Fig. 2. *Cavotettix apterus* sp. nov. ♀. Profile view; drawn from type in the collection of W. S. Blatchley.
Fig. 2*a*. Same, dorsal aspect of head and fore part of pronotum.
Fig. 2*b*. Same, face.
Fig. 2*c*. Same, hind leg.

On a Long-Winged or Caudate Phase of Neotettix proavus Rehn and Hebard (Orth.).

By HENRY FOX, Entomological Assistant, U. S. Bureau of Entomology.*

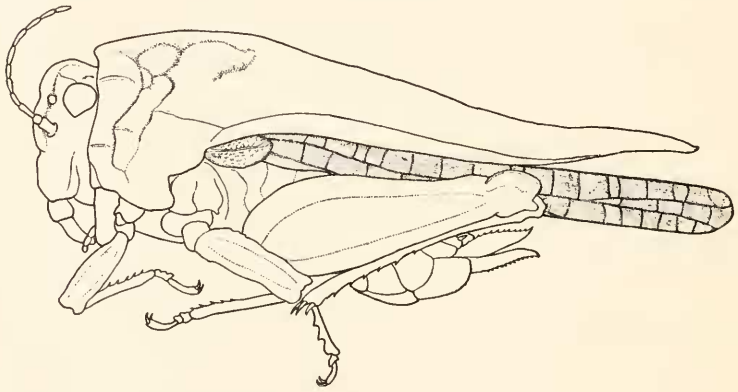
In 1916 Rehn and Hebard described *Neotettix proavus* on the basis of five specimens from the southeastern United States.† It is very evident from the remarks of these authors that they had to do solely with material in which the tegmina and wings were greatly reduced and with the caudal prolongation of the pronotum not exceeding the tip of the abdomen. During the early summer of 1917 the present writer found this species not uncommon locally in wooded areas in the vicinity of Clarksville, Montgomery County, Tennessee. Most of the specimens collected at this locality, and now in the collection of the writer and of the local field station of the Bureau, agree with the form described by Rehn and He-

[4] Can. Ent., XLI, p. 173, 1909.
[4] Ent. News, p. 278, 1899.
[3] Proc. Acad. Nat. Sc., p. 127, 1916.
[4] No answer was received from Dr. Walker to a letter asking for the loan of his type for examination. Very recently Blatchley received from Walker one of his two specimens of *N. borealis*, and finds, as I have above noted, that it is the same as my *sinufrons*.

* Published by permission of the Chief of the Bureau of Entomology.
† Proc. Acad. Nat. Sci., Phila., LXVIII, pp. 137-141.

bard, but there are two specimens in the lot which are interesting as representing a long-winged or caudate phase of this species.

Both of these specimens are females. One is shown herewith in the accompanying figure. With this should be compared the view of a typical, short-winged individual as shown in Figure 1, plate XII, of Rehn and Hebard's paper already cited. It will be observed that, in marked contrast to the latter, the form figured here has the tegmina quite well developed and external in position, whereas in the typical form they are greatly reduced and concealed from view beneath the pronotum. Correlated with the presence of well-developed tegmina is the presence



Neotettix proavus R. and H., long-winged phase.

of a clearly defined superior sinus on the caudal margin of the lateral lobe of the pronotum. This margin is therefore clearly bisinuate in the long-winged phase. In the typical phase the superior sinus is so inconspicuous that Rehn and Hebard have ventured to describe this margin as unisinuate. Other differences between the two phases—such as those in the degree of development of the wings and in the caudal extension of the pronotum—are evident from a glance at the figures.

It is obvious that the discovery of this long-winged phase of *Neotettix proavus* necessitates some modification in the statement of the differential characters of the species as given by Rehn and Hebard in their key to the species of this genus (op. *cited*, p. 138). Thus, as already intimated, the assertion therein that the lateral lobes of the pronotum have the caudal margin unisinuate applies strictly only to the typical form;

in the long-winged form this margin is clearly bisinuate, as in most Tettiginae. The further assertion in the key that the tegmina in the female are hidden under the pronotum is also true only of the typical form of the species. The last differential character mentioned in the key, namely, the strongly arcuate and sublamellate form of the pronotal median carina applies to both the typical and the long-winged form. To the mind of the present writer the most reliable and convenient character for separating *Neotettix proavus* from other members of the same genus is the form of the frontal costa, which appears to be quite constant in all the specimens examined and has been fully and clearly described by the authors named.

The Alleged Occurrence of a Seasonal Dimorphism in the Females of Certain Species of Mealy Bugs (Hemiptera; Coccidae).

By G. F. Ferris, Stanford University, California.

It has been asserted by various authors that the females of certain species of *Phenacoccus* and *Pseudococcus* are seasonally dimorphic. It is said that in these species the winter female is viviparous and possesses a smaller number of antennal segments than does the summer female, which is oviparous. As far as I am aware, these claims have not been questioned by any one and Brain[1] has even been led into a generalization to the effect that "I am inclined to associate the smaller number of antennal segments in these cases with retarded metabolism, as this is always found in the winter forms."

It is the purpose in this paper to show that in certain of these cases this alleged dimorphism does not exist. Furthermore, it is the intention to question that it ever exists in this group, at least as far as any morphological features are concerned.

We may first consider the case of *Pseudococcus agrifoliae* Essig, in which the evidence is sufficiently complete to leave

[1]Brain, C. K. The Coccidae of South Africa. *In* Trans. Royal Soc. S. Africa, vol. 1, pt. 2. (1915).